DOCUMENT RESUME

ED 378 156 SP 035 674

AUTHOR Loehr, Peter
TITLE Creating Learning Organizations: The Deming Management Method Applied to Instruction (Quality Teaching & Quality Learning). A Paradigm Application.
PUB DATE Feb 94
NOTE 30p.
AVAILABLE FROM Peter Loehr, 306 Atterbury Blvd., Hudson, OH 44236 ($7 including postage and handling).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Educational Improvement; *Educational Principles; *Educational Quality; Elementary Secondary Education; Higher Education; Instruction; Models; *Organizational Development; School Administration; *School Effectiveness; *Total Quality Management

ABSTRACT

This paper presents W. Edwards Deming's 14 management points, 7 deadly diseases, and 4 obstacles that thwart productivity, and discusses how these principles relate to teaching and learning. Application of these principles is expected to increase the quality of learning in classrooms from kindergarten through graduate level. Examples of the management points include "cease dependence on mass inspection" and "drive out fear." An example of the deadly diseases is "emphasis on short-term profits." An example of the obstacles that thwart productivity is "seeking examples to follow rather than developing solutions." In a three-column format, the paper lists: (1) Deming's guiding principles for Quality Management, (2) instructional applications of the principles for Quality Teaching, and (3) learner applications of the principles for Quality Learning. For example, the first management principle is "create constancy of purpose for improvement of product and service," accompanied by an instructional application advising teachers to "constantly improve and experiment with instruction" and a learner application advising students to "constantly seek self-improvement in learning approaches and techniques." (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 378 156

The Deming Management Method Applied to Instruction
(Quality Teaching & Quality Learning)

[TQM-T-L.001]950131

Creating Learning Organizations

Quality Management

Quality Teaching

Quality Learning

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Peter Loehr
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

A Paradigm Application

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Peter Loehr, Ph.D.

306 Atterbury Boulevard
Hudson, Ohio 44236
Phone: (216) 650-6197

Developing version: 31 January 1995

© Peter Loehr 1995

SP 035 674

BEST COPY AVAILABLE

ABSTRACT

Creating Learning Organizations:
The Deming Management Method Applied to Instruction (Quality Teaching and Quality Learning)

Peter Loehr

This monograph presents W. Edwards Deming's 14 management points, seven deadly diseases, and four obstacles that thwart productivity and then presents and discusses how these 25 principles relate to teaching and learning. Just as Dr. Deming used these principles to teach the Japanese (and, later, Americans) quality, these principles are directly applicable to create the quality learner, the quality classroom, and the quality school. In so doing, applying these principles will increase the quality of learning in today's classrooms, Kindergarten through graduate level.

To improve the quality of learning, the principles of driving out fear in the classroom, ceasing dependence on mass inspection, breaking down barriers, increasing pride of work for both students and teachers, providing training and education, and long-range goals are some of the 25 principles presented for management, teaching, and learning in this monograph. In a three-column format, Deming's principles are presented and how they relate to improving management, teaching, and learning.

When individual teachers or groups of teachers consistently apply Deming's principles to how and what they teach and when students consistently use these

principles to guide how they learn, study, and produce their learning products, the quality of both teaching and learning improves.

The author does not assert that Deming's principles have a 100%-clear application to each teaching-learning situation. Deming's principles have, however, been revolutionary in developing many manufacturing and service organizations into learning organizations. Perhaps some educators would like to experiment with these proven-successful guiding principles in their own manufacturing and service departments — the classroom.

Applying Deming's principles to the instructional setting may well have the most dramatic, revolutionary impact on increasing quality teaching and increasing quality learning. Improvement is a journey, not a destination. The journey is practiced commitment to constantly and systematically improving the teaching-learning productions. Just as Deming's principles created learning organizations for Honda Motors, Ford Motors, and others, these same principles can create learning organizations in each classroom and school willing to take the bold risk of experimentation. Deming's principles, however, have had multi-billion-dollar success worldwide, thus, greatly reducing the "risk" of applying these to today's classrooms.

CONTENTS

Introduction 1

The 14 Points 2-15

The 7 Deadly Sins 16-18

The 4 Obstacles 19-20

References for further reading 21

Overview: Deming's 14 Points, 7 Deadly Sins, & 4 Obstacles 22

Overview: Deming's Principles Applied to Teaching 23

Overview: Deming's Principles Applied to Learning 24

The Manager - Teacher - Learner Triangle 25

Monograph published by the author, 1995: 306 Atterbury Blvd; Hudson, OH 44236

Much of this material also appeared in *TQM in Higher Education* and *Creating Quality K-12*, 1993 and 1994.

The Deming Management Method Applied to Instruction

(Quality Teaching & Quality Learning)

Peter Loehr, Ph.D.

ITQM-T-L.001|950131

W. Edwards Deming, Ph.D., is credited with revitalizing Japanese industry, creating the "Quality is Job 1" revitalization for the Ford Motor Corporation, and significantly transforming many other major businesses world-wide.

COMMITMENT TO *QUALITY: M - T - L*

*M*anagement - *T*eaching - *L*earning

The goal must be quality. Quality first. Quality before all else. A consistently practiced and demonstrated commitment to quality by every person in the organization — from the board room to the boiler room, and everywhere in between. Employees (including managers, instructors, learners in this paradigm application) are currently working as "hard" as they can. Thus, more work does not increase quality work. Rather, smarter work by intellectually and actively focusing on quality improvement by *each* person with every action improves quality managing, teaching, learning, and every other "product" in the organization. The search for consistently increasing quality is a journey without a destination — one never reaches perfectly stable quality. The journey for consistent quality improvement is a journey to produce new knowledge among each of the sojourners.

Deming's world-famous 14 points, seven deadly diseases, and four obstacles that thwart productivity are listed here at left. These outline the guiding principles for **Quality Management (QM)**. In the center column the instructional applications of Deming's concepts are discussed for **Quality Teaching (QT)**. To the right are the learner applications of these principles for **Quality Learning (QL)**.

At this time I am not suggesting that Deming's principles have a 100%-clear application to each teaching-learning situation. Deming's principles have, however, been revolutionary in evolving many manufacturing and service organizations into learning organizations. Perhaps some educators would like to experiment with these proven-successful guiding principles in their own manufacturing and service departments — the classroom.

Applying Deming's principles to the instructional setting may well have the most dramatic, revolutionary impact on increasing quality teaching and increasing quality learning. This is a journey, not a destination. The journey is practiced commitment to constantly and systematically improve the teaching-learning productions. In this regard, I invite you to join me for one small step for us, but perhaps the greatest modern step in educational improvement. This is greater than the moon walk ever was.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
The Fourteen Points		
1-M. Create constancy of purpose for improvement of product and service.	**1-T. Constantly improve, experiment with instruction (content & techniques).**	**1-L. Constantly seek self improvement in learning approaches & techniques.**
The primary purpose of an organization is not making money. The purpose is to stay in operation by providing jobs through innovation, research, and constant improvement. Organizations survive by serving people. When people are well-served by the services or products that people want, the organizations flourish. When people are not served as they desire (or another organization serves their wants or needs better) organizations falter and fail. It is from this *constancy of purpose for improvement* that all else flows. This is directly opposed to the concept of "If it isn't broken, don't fix it." Everything can be improved. Everything. Always. And as one segment in a complex production process is changed, as with a jigsaw puzzle, other components then may need changing.	The "product or service" of teaching is student learning. "Improvement" in instruction refers to the content & techniques of teaching – the subject and the methods. "Constancy of purpose for improvement" includes (1) a continual commitment to improve the content & techniques and (2) the methods by which that improvement will occur. For example, via computer-assisted-planning, written lesson plans are easily changeable. Developing easily changable class materials enables constant refinement of content & techniques.	Students must accept responsibility for increasing their own learning effectiveness & efficiency. This is an essential element in being a life-long learner and at the heart of the learning processes: Learning is a personal, individual engagement in increasing one's knowledge, skills, abilities, & attitudes. Part of this is for the learner to understand learning theory and how (s)he learns. Total reliance on the instructor disables self-learning.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
2-M. Management must adopt this new philosophy of managing.	**2-T. Negativism and knowingly repeating errors in techniques or content are unacceptable.**	**2-L. Poor, incomplete, late work — less than the learner is capable of — is unacceptable *to the learner.***
Poor workmanship and sullen service are not acceptable. Mistakes and negativism are unacceptable. It is management's job to lead for change. This involves accepting and consistently implementing the Deming principles.	Accepting mistakes does not produce a quality product or reinforce quality learning. The meaning of *mistakes* is critical to this concept. It's the conscious repetition of errors, not the errors from experimentation, that are unacceptable. This principle also relates to instructor "burn out," low morale, and apathy. Poor, insensitive, non-supportive, hyper-critical, fear-instilling management fosters employee burn-out, low morale, and apathy. Yet, effective instructors must persist with quality attitudes and performances.	As learners progress through their courses, they are also to master the self-discipline of consistently having a positive mental attitude toward their actions and productions (and, therefore, themselves). This requires that they consistently accept nothing less than the best they can do. Increases in student learning and performance when students *live* this principle will dramatically increase their learning & productivity.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
3-M. Cease dependence on mass inspection.	**3-T. Create methods by which learners can inspect their own work and productions to decrease dependence on instructor mass inspection.**	**3-L. Learners have a responsibility to inspect and correct their own work and products.**
Quality does not come from inspection. Adding more inspectors does not improve quality production. Quality comes from each employee inspecting his/her own products so that quality is built in at every step. However, each employee must be carefully taught what the specifications are, continual measurement techniques, and how to identify causes for out-of-specification productions. This is management's responsibility.	Ballet students – including quite young students – use a mirror to inspect their own work and achievement. By doing so, they reduce dependence on the ballet instructor to *constantly* critique each student's work. For learners to self-critique their work and production, they must have a clear vision of what is required to be in compliance with the expected outcome. The role of the instructional manager is to create this clear vision or standard and to teach students the methods of self-assessment. All learning involves assessment. The most powerful assessment persons make is the self-assessment of themselves during formative stages of production and of the summative final product using both quantitative and qualitative assessment measures.	This involves learners being committed to quality work and being aware of the standards expected of their work so they can self-assess how the work measures up to the expected standard. Then learners must have sufficient time and training to improve the quality of their work. This principle in conjunction with # 2 (unacceptable work is unacceptable) empowers each learner with responsibility for quality. The techniques to implement this principle are many and frequently changing, depending on age of learner, subject, and type of work produced. Part of the learner and teacher responsibilities include continually searching for more quality-enhancing methods to involve learners critiquing and revising their own products. This is an essential skill for life-long learning and achievement.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
4-M. End the practice of awarding business on price tag alone.	**4-T. Teachers must be alert and speak (demand) quality materials and equipment.**	**4-L. Learners at all age levels purchase their own supplies and equipment. Learners must seek the most appropriate quality supplies and equipment for their work.**
Best quality, rather than lowest price, is the criteria for selecting vendors and employees.	Few things can block learning as quickly as poor quality paper in a photocopy machine or a low-quantity copier used for high-quantity runs.	From crayons, calculators, computers, and every other material a learner uses, there are differences in quality available. When the quality of goods used is inferior, the learner is at a disadvantage in producing quality work.
Quality is also improved by developing long-term relationships with single suppliers for particular items.	Educators must insist to be involved in decisions impacting their performance. Educators must also be informed of methods to assess the quality of materials, equipment, or services they are using.	Although price does not insure quality, too often lesser-priced supplies and equipment cost more in the long run. Crayons are produced by several companies and sold at varying prices. Cheap (but look-alike) crayons quickly break, have dull colors, and do not produce quality products. There are many computers, programs, and printers available in wide price ranges. Some are more limiting than others. Work tools limit or expand one's performance, as an inferior microphone can spoil even the best singer's performance.
For example, in 1993 one corn user offered 20% *more* than the going cost for five barges of a particular type of corn. The corn product manufacturer got more consistent quality of raw materials and was, thus, able to produce a higher quality product while actually reducing the more costly process costs by having less waste.	As top management makes a consistent commitment to quality, "battles" for quality materials and equipment will lessen. However, each employee must watch for quality deficiencies or improvements with materials throughout the work site.	
	When quality assessment is invested in one person, that person's opinions determine what quality is. However, when many persons' views are systematically incorporated in assessing quality, better determinations are made.	

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
5-M. Improve constantly and forever the system of production and service.	**5-T. Constantly and forever improve teaching methods, content, assessment, materials, etc.**	**5-L. Students are obligated to constantly and forever improve their products of learning.**
Improvement is not a one-time effort. Management is obligated to continually look for ways to reduce waste (time & materials) and improve quality.	There is no single "best" way of teaching; improvement is not a one-time effort. Teachers are obligated to continually improve the quality of student learning by seeking ways to increase efficient or effective methods and materials.	The level of achievement (production) increases from kindergarten through graduate school. Learners have a major responsibility for their own continual increase improving their achievements and productions.
Management is also responsible to lead, educate, encourage employees to continually seek ways to reduce waste and improve quality.	Measuring student learning gains and comparing & experimenting with various methods, materials, assessment techniques are integral parts to constantly improve production and service.	A paradigm shift here is from the teacher being primarily responsible for student increases in production to the learner being equally or co-responsible for increases in quality achievement.
This principle focuses on the system of production & service (rather than the individual). According to Deming 94% of the variations in quality are **system** produced ("common causes"), rather than individually caused ("special causes"). (*Out of the Crisis*, p. 315)	This requires that each teacher actively engage in analysis and experimentation of content and methods to improve the quality of student learning.	Some "better" students currently exhibit being responsible for increasing their own achievement. This focus or governing principle is available to all learners to increase their achievements.
	When each teacher is so engaged and sharing findings with colleagues and collaboratively studying issues at the instructional site, learning organizations will develop to constantly create knowledge to improve quality.	

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
6-M. Institute training.	**6-T. Regularly, consistently, and continually participate in training to increase one's knowledge, skills, abilities, and attitudes related to one's job.**	**6-L. Learners have a responsibility to develop & implement a self-learning plan to increase their knowledge, skills, abilities, and attitudes.**
Just as too often in businesses workers learn their job from another worker who was never trained properly, so too in the educational settings: Too often new employees are not trained in the specifications expected for a new assignment.	There are opportunities available to increase skills: professional seminars, graduate courses, workshops, lecturers, professional reading (books, magazines), study groups with other professionals. Ideally – or when the Deming concepts are fully operational – the organization will support such training.	As learners get older, their responsibility increases for self-directed learning. Not only are learners responsible for eliminating deficiencies in the knowledge base, they are also responsible for adding to their knowledge base.
Curriculum guides are not self-teaching documents; nor should new administrators receive their orientation to the new position from the secretary.	Not only should one work with his/her supervisor to set an annual training plan (and financial support), the teacher should also be responsible him/herself for a significant long-term training plan.	Learners should have a long-term personal development plan addressing general and specific increases in their knowledge, skills, abilities, and attitudes using a variety of resources (reading, audio tapes, lecturers, study groups, mentors, etc.).
Training – continual training – for employees in how to perform their duties better is an essential component to continual improvement.	"Business as usual" is unacceptable. A commitment to Quality First requires a continual commitment to increase one's own knowledge, skills, abilities, and attitudes.	

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
7-M. Institute leadership.	**7-T. Teaching is leadership.**	**7-L. Learning is leadership: Leading one's self. Learning is also following or participating with the leadership of others.**
The job of a supervisor is not to tell people what to do or to punish them. A leader's job is to lead.	The role of a teacher is not to tell learners what to do or to punish them, but to lead them.	Learners are responsible for developing a working relationship with their teachers. Such a relationship facilitates more effective following of the learning journey the teacher is leading.
Leading consists of helping people do a better job. A necessary part of this is learning by objective methods who is in need of individual help — then providing the help in a helpful, non-threatening, positive, cooperative manner.	Leadership consists of helping learners do a better job and of learning by objective methods who is in need of indivudal help and then facilitating that help.	For learners, developing a mentor relationship with a significant person of one's own choosing is a valuable learning/following path offering profound potential, whether one is officially enrolled in a course or pursuing life-long, self-directed learning.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
8-M. Drive out fear.	**8-T. Drive out fear and anxiety to increase trust, personal commitment, creativity, and learning retention.**	**8-L. Be on guard to your own fears and anxieties and continually work to reduce fears, anxieties, and their causes.**
Fear reduces creativity, reduces commitment, and reduces initiative.	People do not produce knowledge or retain learning in an environment of fear and anxiety. People will guard themselves from expressing their ideas, from creativity, and from going beyond the minimum when they fear criticism or judgmental attitudes from those in their work environment, particularly supervisors.	Fears, feelings of impending punishment or ridicule, and anxieties prevent people from creatively learning and from remembering what they have studied or done.
For better quality and productivity it is necessary for people to feel secure, feel free to ask questions, feel free to take positions, and to be supported to make "mistakes" while experimenting.	Also signigicant here is the *continuing* emphasis or focus on driv*ing* out fear. It is not a one-time activity, but a constant aspect of the work environment that must be addressed so the creative energies of workers can flourish.	Learners must understand their own emotional levels of involvement – detachment – fear and pursue methods to decrease fear, anxieties, and uncertainities.
A manager's job is to continaully seek ways to drive out fear, because fear (like cavities and rust) always creeps in.		

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
9-M. Break down barriers between staff areas.	**9-T. Break down barriers between staff areas, departments, and co-workers.**	**9-L. Break down barriers with other learners so that cooperative, assisted learning & sharing can flourish.**
When departments or units work independently they do not work as a team to solve or foresee problems of the organization.	This is much more than "smile training" and quick-fix motivational workshops. As people work in their own areas and specialties, barriers naturally develop. Thus, this principle is directed to the *continuing* activity of break*ing* down barriers so that people will work together to solve or foresee problems and make improvements.	Competition when one learner competes with all others to be "the best" is not conducive to learning. Competition sustains a barrier with others preventing all from learning what they are able to add to problem-solving and prevents sharing ideas with others. This is a continuing activity of break*ing* down barriers, since it is common for barriers to develop naturally as persons increase their personal knowledge, skills, and special interests.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
OM (Management)	**OT (Teaching)**	**OL (Learning)**
10-M. Eliminate slogans, exhortations, and targets for the workforce.	**10-T. Create your own slogans, exhortations, and affirmation statements for yourself.**	**10-L. Create your own slogans, exhortations, and affirmation statements for yourself.**
Management-initiated slogans do not help people do a better job. Let people put up their own slogans.	Creating one's own slogans and affirmation statements can focus attention on individual targets and increase motivation or interest; whereas, organizationally created slogans do not help people do a better job. As slogans are no longer desired, change them. These should be personal statements and commitments, flexible and unique for them to have significant impact or influence.	Learning and doing are personal journeys sometimes inspired or charted by slogans, exhortations or focus targets. As the slogans are met or ingrained, others take their place. "Study Tuesday, Wednesday, & Thursday" might be a relevant focus statement for a Friday exam, but after the test the slogan has served its purpose and it may be time for another focus statement.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
11-M. Eliminate numerical quotas.	**11-T. Eliminate numerical quotas.**	**11-L. Seek quality, rather than "look long" work products.**
Quotas take account only of numbers, not quality or methods. They are usually a guarantee of inefficiency and high cost.	Assigning a book or research paper of a particular length or a speech of a certain number of minutes does not assure quality, but usually produces inefficient learning and poor quality. Likewise, grading on a "curve" is not an incentive for quality work. Quite the contrary, grading on a curve cultivates destructive competition and prevents optimum learning by all. Bloom asserts in *Human Characteristics and School Learning* "Most students become very similar with regard to learning ability, rate of learning, and motivation for further learning — when provided with favorable learning conditions" (p. x). Competition is a highly unfavorable learning condition; cooperation is. Focus work processes and products products on quality, rather than an arbitrary length.	When seeking quality — and the activity is a continuing one — focus on the quality, rather than on the length or number of items. A much longer length may be necessary to produce a quality product, or a very short product may contain quality.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
12-M. Remove barriers to pride of workmanship.	**12-T. Remove barriers to pride and joy in work and work products.**	**12-L. Joy in one's work and pride in one's work products are valuable in focusing on quality products.**
People are eager to do a good job and distressed when they can't.	People are eager to accomplish the best they are permitted to do. Misguided & misinformed supervisors, faulty equipment, defective materials, and system causes stand in the way of quality performance about 94% of the time. (Deming, *Out of the Crisis*, p. 315.)	Joy and pride are essential aspects in intrinsic motivation. Intrinsic motivation is a far greater motivator than extrinsic motivators. Joy and pride are not add-ons, but are the soul of caring for what one creates.
Too often, misguided supervisors, faulty equipment, and defective materials stand in the way of quality performance. These barriers must be removed.	Teachers must have joy and pride in what and how they work. Teachers should continually look for joy and pride enhancers for themselves and for learners.	The learner shares in the responsibility for joy and pride so that quality can be pursued.
Management's job is to remove barriers to pride and joy in the workplace and in work produced.	For example, teachers must be on continual guard in the classroom and at the job site (through involvement in purchasing) to eliminate faulty equipment (eg, copy machines, computers) and defective materials (paper quality, AV equipment, books) from entering the learning arena.	As such, the learner must identify and take necessary actions when barriers in joy and pride are perceived.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
13-M. Institute a vigorous program of education and re-training.	**13-T. Continue learning to increase your knowledge, skills, abilities, and attitudes in both job-related areas and other areas.**	**13-L. Learners must vigorously increase their knowledge, skills, abilities, and attitudes to improve their present abilities and to prepare for future and unknown opportunities.**
Both management and the workforce must be educated in the new methods, including teamwork, statistical techniques, research methods, assessment skills, as well as "general education" areas for the unforeseen future.	Teachers must continually and vigorously update their knowledge and skills. Depending on infrequent college courses, sporadic employer-provided workshops, and easy-read journals is insufficient. Essential components of continuing development are evaluation, assessment, statistical methods, study design, and group process skills. Persons should also regularly increase their knowledge in the arts, sciences, economics, and other realms. **Developing solutions to problems is a work-site activity; thus, instructors must be able to conduct systematic studies to create knowledge applicable to their specific problems or issues.**	One cannot be totally dependent on the learning that *others* consider important. Rather, one should also decide what (s)he considers important both now and in the unknown future and use a *written learning plan*. Such a plan should be updated regularly.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
14-M. Take action to accomplish the transformation.	**14-T. Take action to accomplish the transformation.**	**14-L. Take action to accomplish the transformation.**
System-wide transformation will take a special top management team with a plan of action to carry out the quality mission. Workers or managers can't do it on their own. A critical mass of people must understand the 14 points, 7 deadly diseases, and the 4 obstacles and take action.	In many instances teachers have the ability to implement Deming's principles in the instructional setting. Teachers are the managers of their classrooms. Thus, teachers should not rely or wait for others to change their life, joy in the workplace, and success. Teachers must take action individually, in small group, or in large group. Deming's principles offer a common focus and common language for people to work for improvement. Implementation techniques will differ among persons, subjects, and departments. Yet, the common focus and language foster unity and constant improvements.	In most instances learners have the ability to implement Deming's principles for their own learning. Learners are the managers of many aspects of their learning. Thus, learners should not depend or wait for others to change their life, joy in the workplace, and success. Learners must take action individually, in small group, or in large group. Deming's principles offer a common focus and common language for people to work for improvement. Implementation techniques will differ among persons, subjects, and departments. Yet, the common focus and language foster unity and constant improvements.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	QT (Teaching)	QL (Learning)
The Seven Deadly Diseases		
1-MD. Lack of constancy of purpose is a disease to organizational improvement.	**1-TD. Inconsistency of purpose for Quality Improvement as the # 1 priority.**	**1-LD. Inconsistent focus on Quality Improvement.**
An organization that is without constancy of purpose has no long-range plans for staying in business. Management is insecure, and so are employees. For Deming, <u>the</u> purpose is to improve quality.	Quality is Job # 1. Anything less creates inconsistency of purpose. This is a *continuing* purpose, rather than a one-time action.	Job # 1 for learners is *continuing* improvement of their knowledge, skills, abilities, and attitudes. Doing something the same as it was done before (without improving the quality) is not sufficient. "What can I do to improve this?," or "How can this be better?" are questions to continually ask oneself.
2-MD. Emphasis on short-term profits is a disease.	**2-TD. Emphasis on short-term teaching or learning.**	**2-LD. Emphasis on short-term learning.**
Looking to increase the quarterly dividend undermines quality and productivity.	Quality teaching and quality learning, as well as quality improvements in teaching and learning, are not short-term, isolated activities. They are components of life-long learning by both the teacher and learner.	Short-term learning (eg, cramming to pass a test) is not learning. Quality learning occurs when knowledge enters the long-term memory and is applied to other situations.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
3-MD. Evaluation by performance, merit rating, or annual review of performance is a disease that thwarts organizational development. The effects of these are devastating – teamwork is destroyed, rivalry is nurtured. Performance ratings build fear and leave people bitter, despondent, and beaten. They also encourage mobility of management. This does not negate the need to identify causes for variation in employee performance and take appropriate action to make system changes and educate workers to improve performance.	**3-TD. Competitive assessment of learner achievement to limit the number eligible for top performance is a disease that thwarts learning.** Top quality of performance is within the range of almost all learners, if not all (Bloom, 1976). Assessment methods must strengthen teamwork, must reduce fear, must reduce anxieties, and must result in people feeling better, not bitter.	**3-LD. Learners should not rely on test scores as the indication of what they know.** Knowledge is a growing, developing, changing, interrelated body. Test scores reflect what one knew (past tense), not what one knows (present tense) or how one will apply knowledge (future tense). There are many indications for one's knowledge and the most significant come from the individual him/herself.
4-MD. Mobility of management is a disease. Job-hopping managers never understand the organizations that they work for and are never there long enough to follow through on long-term changes that are necessary for quality and productivity.	**4-TD. Mobility of teaching locations or subjects is a disease that thwarts productivity.** Job-hopping and subject-hopping do not facilitate follow through on long-term changes that are necessary for quality or productivity improvements.	**4-LD. Lack of following through to completion on projects is a disease.** Beginning projects and not completing them is a major disease. Such behavior when repeated sets a pattern having far-reaching, negative impact on quality and productivity.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
5-MD. Running an organization on visible figures alone (counting the money, teacher-learner ratio) is a disease that thwarts productivity. The most important figures are unknown and unknowable — the multiplier effect of a happy customer, for example.	**5-TD. Judging teaching effectiveness by visible figures only is a disease.** The most significant considerations in assessing teaching effectivness are unknown and unknowable — inspiring learners to be self-learners, imparting life-long-learning skills and attitudes, developing mentorships. Instructors should include in their assessments a variety of other factors, rather than reply only on visible figures alone.	**5-LD. Judging learning by grades or scores only thwarts learning.** There is much more learning which occurs than that for which grades or scores are assigned. There are also many more knowledge and skill areas in which to learn than are assigned grades or contained in subjects.
6-MD. Excessive medical costs is a disease.	**6-TD. Excessive absences or health impairments impact teaching effectiveness.** Continually maintaining good physical, mental, and emotional health are essential to continue improving the quality of one's actions.	**6-LD. Failure to continually improve one's physical, mental, and emotional health impairs learning.** Neglect or abuse of one's physical, mental, and emotional health is a deadly disease that prohibits quality development and quality learning.
7-MD. Excessive costs of warranty, fueled by lawyers that work on contingency fees are a disease.		

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
Obstacles that thwart productivity		
1-MO. Neglect of long-range planning is an obstacle thwarting productivity.	**1-TO. Neglect of long-range planning thwarts productivity.** To work in "the big picture" one must focus on the big picture and where one's actions fit. One-year, five-year, ten-year, and life-time goals require continual planning, monitoring, and adjusting.	**1-LO. Neglect of long-range planning thwarts productivity.** If you don't know where you're going, how will you get there? Actions should *purposely* lead to desired directions, including preparing for unforeseen possibilities.
2-MO. Relying on technology to solve problems thwarts productivity.	**2-TO. Relying on technology to solve problems thwarts productivity.** Technology does not solve problems. People solve problems. More significant, each of us solves our own problems as we continually create knowledge of quality improvement at our job-site. Technology is useful as a *tool*, but not as *the* solution for many problems facing organizational improvement.	**2-LO. Relying on technology to solve problems thwarts productivity.** Learner problems and the problems of the world will not be solved by technology. Problems will be solved by people using their physical, mental, and emotional abilities. Technology is a toolbox which people use to create solutions to problems.

DEMING	INSTRUCTIONAL APPLICATIONS	LEARNER APPLICATIONS
QM (Management)	**QT (Teaching)**	**QL (Learning)**
3-MO. Seeking examples to follow rather than developing solutions is an obstacle that thwarts productivity.	**3-TO. Seeking examples to follow rather than developing solutions thwarts improvement.** The teaching problems (content & process) that one faces are personal, job-site relevant, and unique. Seeking quick-fixes will not fix, but will frustrate long-term improvement. Developing solutions for individual or system problems requires personal understanding and involvement for buy-in to occur. Simply following the examples of others does not increase employee understanding of the complexity of the problem or increase buy-in to the solution.	**3-LO. Depending on others to solve one's problems thwarts learning.** Improvement is a personal, individual commitment to develop solutions for one's own problems. Assistance from others, of course, is certainly necessary; but *reliance* on others in lieu of solving one's own problems does not facilitate long-term, problem-solving skills.
4-MO. Excuses such as "Our problems are different" and "Deming's principles aren't relevant here" thwart productivity and organizational improvement. Deming's principles are the only *proven* successful management principles in the multi-billion dollar, international arena creating learning organizations for over four decades. The only. They work.	**4-TO. Excuses such as "Our problems are different" when this implies that your problems are not solvable using Deming's principles thwarts improvement.** One's problems may well be different, quite different; but that difference does not mean that solutions cannot be found. When others have solved their problems using Deming's principles, you can too!	**4-LO. Excuses such as "My problems are different" thwarts achievement when this implies that a learner's problems are not solvable using Deming's principles.** Everyone or nearly everyone is capable of learning almost everything. That others have solved their problems means that solutions to problems *are* possible. They take work, but so does everything worth achieving.

REFERENCES FOR FURTHER READING ON THE DEMING MANAGEMENT PRINCIPLES:

Aguayo, R. (1990). *Dr. Deming: The American who taught the Japanense about quality*. New York: Simon & Schuster.

Deming, W. E. (1986). *Out of the crisis*. Cambridge: Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Deming, W. E. (1993). *The new economics: For industry, government, and education*. Cambridge: Massachusetts Institute of Technology, Center for Advanced Engineering Study.

Walton, M. (1986). *The Deming Management Method*. New York: Putnam. **NOTE**: This was a primary source for Deming's 14 points, seven deadly sins, and four obstacles to overcome; many of Deming's principles in the TQM column and commentary came from this book.

Also of significance:

Bloom, B. (1976). *Human characteristics and school learning*. New York: McGraw-Hill.

This is a classic work on how variation of student learning can be reduced in schools; thus, how quality can be improved in student learning. Chapters include: (1) Individual differences in learners and learning; (2) A learning unit; (3) Cognitive entry behaviors; (4) Affective entry characteristics; (5) Quality of instruction; (6) Affective outcomes of school learning; and (7) Summary of the parts of the theory and their interrelations in selected studies. Asserts Bloom: "Most students become very similar with regard to learning ability, rate of learning, and motivation for further learning — when provided with favorable learning conditions." (p. x)

Covey, S. (1993). *Principle-centered leadership*. New York: Simon & Schuster.

DuPree, M. (1989). *Leadership is an art*. New York: Dell.

Goldratt, E. M., & Cox, J. (Most recent ed.). *The goal: A process of ongoing improvement*. New York: North River Press.

OVERVIEW: Deming's 14 Management Points, 7 Deadly Diseases, and 4 Obstacles

The 14 Management Points

1-M. Create constancy of purpose for improvement of product and service.

2-M. Management must adopt this new philosophy of management.

3-M. Cease dependence on mass inspection.

4-M. End the practice of awarding business on price tag alone

5-M. Improve constantly and forever the system of production and service.

6-M. Institute training.

7-M. Institute leadership.

8-M. Drive out fear.

9-M. Break down barriers between staff areas.

10-M. Eliminate slogans, exhortations, and targets for the workforce.

11-M. Eliminate numerical quotas.

12-M. Remove barriers to pride of workmanship.

13-M. Institute a vigorous program of education and retraining.

14-M. Take action to accomplish the transformation.

The Seven Deadly Diseases

1-MD. Lack of constancy of purpose is a disease to organizational improvement.

2-MD. Emphasis on short-term profits is a disease.

3-MD. Evaluation by performance, merit rating, or annual review of performance is a disease that thwarts organizational development.

4-MD. Mobility of management is a disease.

5-MD. Running an organization on visible figures alone (counting the money, teacher-learner ratio) is a disease that thwarts productivity.

6-MD. Excessive medical costs is a disease.

7-MD. Excessive costs of warranty, fueled by lawyers that work on contingency fees are a disease.

The Four Obstacles that Thwart Productivity

1-MO. Neglect of long-range planning is an obstacle thwarting productivity.

2-MO. Relying on technology to solve problems thwarts productivity.

3-MO. Seeking examples to follow rather than developing solutions is an obstacle that thwarts productivity.

4-MO. Excuses such as "Our problems are different" and "Deming's principles aren't relevant here" thwart productivity and organizational improvement.

OVERVIEW: Deming's Principles Applied to Teaching

The 14 Teaching Points

1-T. Constantly improve, experiment with instruction (content & techniques).

2-T. Negativism and knowingly repeating errors in techniques or content are unacceptable.

3-T. Create methods by which learners can inspect their own work and productions to decrease dependence on instructor mass inspection.

4-T. Teachers must be alert and speak (demand) quality materials and equipment.

5-T. Constantly and forever improve teaching methods, content, assessment, materials, etc.

6-T. Regularly, consistently, and continually participate in training to increase one's knowledge, skills, abilities, and attitudes related to one's job.

7-T. Teaching *is* leadership.

8-T. Drive out fear and anxiety to increase trust.

9-T. Break down barriers between staff areas, departments, and co-workers.

10-T. Create your own slogans, exhortations, and affirmation statements for yourself.

11-T. Eliminate numerical quotas.

12-T. Remove barriers to pride and joy in work and work products.

13-T. Continue learning to increase your knowledge, skills, abilities, and attitudes in both job-related areas and other areas.

14-T. Take action to accomplish the transformation.

The Seven (Six) Deadly Diseases

1-TD. Inconsistency of purpose for Quality Improvement as the # 1 priority.

2-TD. Emphasis on short-term teaching or learning.

3-TD. Competitive assessment of learner achievement to limit the number eligible for top performance is a disease that thwarts learning.

4-TD. Mobility of teaching locations or subjects is a disease that thwarts productivity.

5-TD. Judging teaching effectiveness by visible figures only is a disease.

6-TD. Excessive absences or health impairments impact teaching effectiveness.

The Four Obstacles that Thwart Productivity

1-TO. Neglect of long-range planning thwarts productivity.

2-TO. Relying on technology to solve problems thwarts productivity.

3-TO. Seeking examples to follow rather than developing solutions thwarts improvement.

4-TO. Excuses such as "Our problems are different" when this implies that your problems are not solvable using Deming's principles thwarts improvement.

Creating Learning Organizations, Loehr, 1995

OVERVIEW: Deming's Principles Applied to Learning

The 14 Learning Points

1-L. Constantly seek self improvement in learning approaches & techniques.

2-L. Poor, incomplete, late work – less than the learner is capable of – is unacceptable *to the learner*.

3-L. Learners have a responsibility to inspect and correct their own work and products.

4-L. Learners at all age levels purchase their own supplies and equipment. Learners must seek the most appropriate quality supplies and equipment for their work.

5-L. Students are obligated to constantly and forever improve their products of learning.

6-L. Learners have a responsibility to develop & implement a self-learning plan to increase their knowledge, skills, abilities, and attitudes.

7-L. Learning is leadership: Leading one's self. Learning is also following or participating with the leadership of others.

8-L. Be on guard to your own fears and anxieties and continually work to reduce fears, anxieties, and their causes.

9-L. Break down barriers with other learners so that cooperative, assisted learning & sharing can flourish.

10-L. Create your own slogans, exhortations, and affirmation statements for yourself.

11-L. Seek quality, rather than "look long" work products.

12-L. Joy in one's work and pride in one's work products are valuable in focusing on quality products.

13-L. Learners must vigorously increase their knowledge, skills, abilities, and attitudes to improve their present abilities and to prepare for future and unknown opportunities.

14-L. Take action to accomplish the transformation.

The Seven (Six) Deadly Diseases

1-LD. Inconsistent focus on Quality Improvement.

2-LD. Emphasis on short-term learning.

3-LD. Learners should not rely on test scores as the indication of what they know.

4-LD. Lack of following through to completion on projects is a disease.

5-LD. Judging learning by grades or scores only thwarts learning.

6-LD. Failure to continually improve one's physical, mental, and emotional health impairs learning.

The Four Obstacles that Thwart Learning

1-LO. Neglect of long-range planning thwarts productivity.

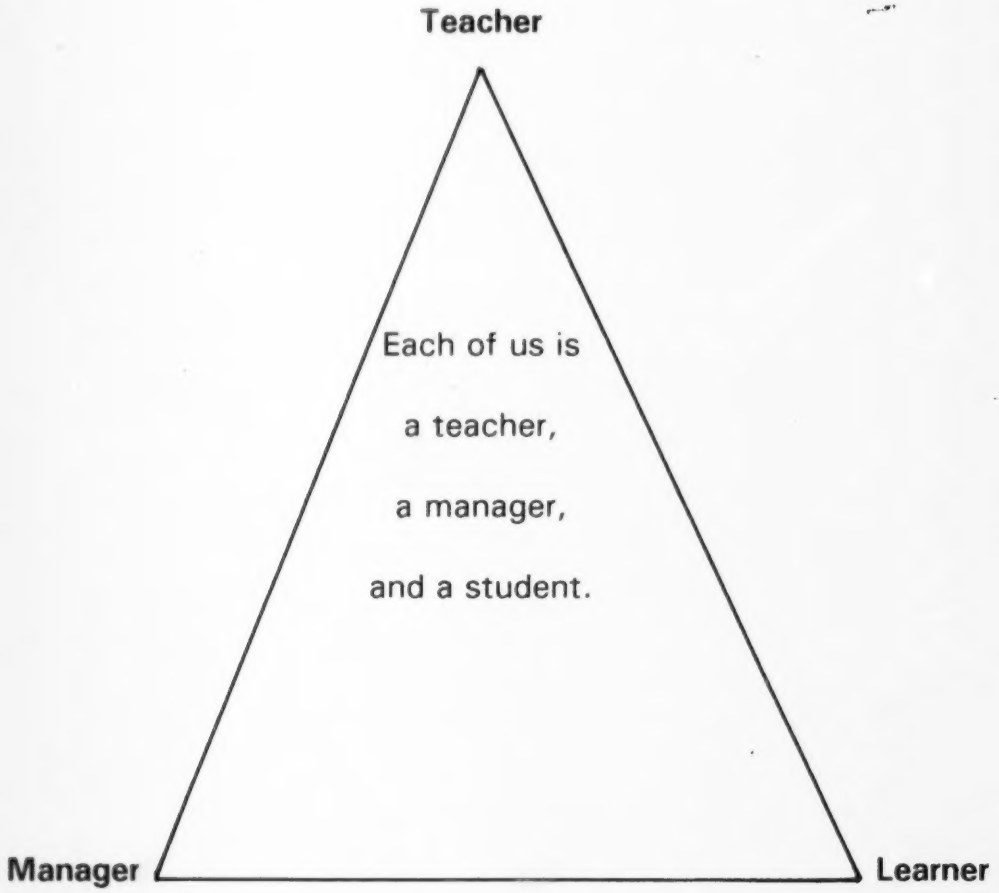
2-LO. Relying on technology to solve problems thwarts productivity.

3-LO. Depending on others to solve one's problems thwarts learning.

4-LO. Excuses such as "My problems are different" thwarts achievement when this implies that a learner's problems are not solvable using Deming's principles.

Creating Learning Organizations, Loehr, 1995

The Manager - Teacher - Learner Triangle



Thus, the quality of our managing, teaching, and learning will increase when we apply Deming's principles to our own managing, teaching, and learning. It is in this hope that this material is written and distributed.

-- *P.W.L.*